



Application No.: 09/591,531

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

L.B. Kool et al. ✓

: Group Art Unit: 2825

Application No. 09/591,531 ✓

: Examiner: I. U. Anya

Filed: June 9, 2000 ✓

: Response to Paper No. 7

For: **Method for Removing a Coating From a Substrate,
And Related Compositions**

AMENDMENT UNDER 37 CFR 1.111

Assistant Commissioner for Patents
Washington, DC 20231

S I R:

This case has been carefully reviewed in light of the Office Action of 03/14/2002, in which claims 1-6, 9, 10, 12, 13, 17-27, 29-36, 38-44, 46, and 47 were rejected under 35 USC 103(a) as being unpatentable over Baldi, US Patent No. 3,622,391, in view of Matsukawa, U.S. Patent No. 5,962,145; claims 7, 8, 11, 14, 15, 16, 28, 37, 45, and 48 were objected to as depending from a rejected base claim. Claims 1-48 remain pending in this application. Reconsideration in light of the following remarks is respectfully requested.

Applicants respectfully traverse the rejection of claims 1-6, 9, 10, 12, 13, 17-27, 29-36, 38-44, 46, and 47 under 35 USC 103(a) as being unpatentable over Baldi, in view of Matsukawa. As stated by the Examiner, Baldi does not teach, suggest, or disclose "an acid having the formula H_xAF_6 ...wherein A is selected from the group consisting of Si, Ge, Ti, Zr, Al, and Ga; and x is 1-6," as recited by independent claims 1 and 42, and "an acid having the formula H_xAF_6 ...wherein A is selected from the group consisting of Si, Ti, and Zr; and x is 1-3," as recited by independent claim 34. Matsukawa describes an aluminum surface treatment solution comprising fluorometal acids such as H_2ZrF_6 , H_2TiF_6 , H_2HfF_6 , H_2AlF_6 , H_2SiF_6 , H_2GeF_6 , H_2SnF_6 and HBf_6 . However, Applicants respectfully submit that the combination of these two applied references does not constitute a proper *prima facie* case of obviousness, because one skilled in the art would have no motivation to combine the references to arrive at the invention of the present recited claims.

First, the treatment described in Matsukawa is "capable of forming a film having excellent anticorrosion...properties" (col. 2, lines 16-21, emphasis added). Although some etching of the aluminum appears to occur in the process of Matsukawa, it is plain from col. 3, lines 45-54 that a

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film is simultaneously formed on the surface of the metal, a film that is resistant to corrosion. In direct opposition to this concept, the Baldi reference is directed to the removal of surfaces, namely, metallic coatings, by corroding the coatings in a stripping solution. Applicants respectfully submit that to combine the Matsukawa process, which deposits a corrosion-resistant coating, with the Baldi process, which is intended to remove a coating via corrosion, destroys the intent, purpose, and function of the invention disclosed in Baldi. Therefore, one skilled in the art would not be motivated to combine these two references, and, in fact, there would be a disincentive to do so.

Second, as disclosed in the present specification, p. 3, l. 17-27, Applicants' invention relates to the removal of diffusion coatings, typically formed of aluminide-type materials (such as platinum aluminide and nickel aluminide), and overlay coatings, typically formed of MCrAlX – type material. In stark contrast, Matsukawa is directed to a treatment for the surface of aluminum and aluminum alloys, which are well understood by those skilled in the art to have significantly different properties from aluminides and MCrAlX materials. For example, the aluminum alloys described in the examples of Matsukawa melt, significantly soften, or otherwise rapidly oxidize at temperatures and in environments where aluminide coatings and MCrAlY coatings are commonly used, and their mechanical properties are very different, with aluminides and MCrAlX having significantly higher strength and lower ductility than aluminum and aluminum alloys. Applicants respectfully submit that one skilled in the art would have no motivation to combine a process involving aluminum alloys with one involving aluminides and MCrAlX, because the extreme differences in their properties rule out any reasonable expectation that a process that treats aluminum surfaces would successfully treat an aluminide or MCrAlX surface. Applicants respectfully emphasize the well-established axiom that a reasonable expectation of success is necessary to establish a *prima facie* case of obviousness.

In summary, Applicants respectfully submit that the combination of Baldi and Matsukawa does not constitute a proper *prima facie* case of obviousness, because to combine Matsukawa with Baldi destroys the intent, purpose, and function of the invention disclosed in Baldi, and because one skilled in the art would have no reasonable expectation that the techniques for coating aluminum and aluminum alloy surfaces discussed in Matsukawa would be successful in stripping high-temperature aluminide and MCrAlX materials. Applicants respectfully submit, therefore, that independent claims 1, 34, and 42, and the dependent claims 2-6, 9, 10, 12, 13, 17-27, 29-33, 35-36, 38-41, 43-44, 46, and 47, are patentably distinct from the applied references, both singly and in combination.

Although not directly applied in a rejection against any specific claim, the Examiner asserts that Kitayama et al., U.S. Patent No. 5,916,656, teaches the use of fluorosilicic acid as art-recognized equivalent of hydrofluoric acid. The Examiner appears to be basing this assertion on the passage in col. 14:

A fluosilicic acid (H₂SiF₆) is typically used as the hydrofluoric acid. In order to improve the cleaning effect and the like, fluoric acid

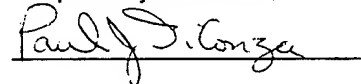
(such as hydrofluoric acid) and commercially available cleaning agents...can be added in trace amounts as the hydrofluoric acid treating solution.

However, in the same reference, col. 19, lines 1-4, Kitayama et al. state "This process is similar to example 1, except that a fluoric acid is used instead of a hydrofluosilicic acid...." This passage directly contradicts the passage cited by the Examiner, because in this passage a clear distinction is drawn between fluoric acid (which includes hydrofluoric acid, according to the passage cited by the Examiner) and hydrofluosilicic acid (which is commonly known in the art to be a synonym for fluosilicic acid). Applicants respectfully submit that in the face of this conflicting evidence, one skilled in the art would not understand the two acids to be equivalent, especially in light of the fact that hydrofluoric acid is known in the art to be a much more aggressive mineral acid than hydrofluosilicic acid. After careful consideration of the context of this patent, Applicants respectfully propose that the author of Kitayama et al. is mistakenly using the word "as" to mean "with", or in addition to," as evidenced by the language in the second sentence of the same passage: " can be added in trace amounts as the hydrofluoric acid treating solution." Regardless of what Kitayama et al. describes, Applicants respectfully submit that it has no effect on the arguments presented above as to the improper combination of Baldi with Matsukawa, and that the rejected claims are patentably distinct from the applied references.

Applicants respectfully submit that the objection to claims 7, 8, 11, 14, 15, 16, 28, 37, 45, and 48 should be removed, as Applicants believe that the independent claims from which these claims depend are allowable, for reasons set forth above.

In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Respectfully submitted,



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